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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,250	08/26/2003	Akira Ueda	1614.1360	2448

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EXAMINER	
BROOME, SAID A	
ART UNIT	**PAPER NUMBER**
2628	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/647,250	UEDA ET AL.	
	Examiner	Art Unit	
	Said Broome	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 3/14/07.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1 and 3-16 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1 and 3-16 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/14/07 has been entered.

Response to Amendment

1. This office action is in response to an amendment filed 3/14/2007.
2. Claims 1 and 11-15 have been amended by the applicant.
3. Claim 2 has been cancelled.
4. Claims 3-10 and 16 are original.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 3-12 and 14-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 14 and 15 describe: "A method of generating mesh data" and claim 16 describes: "A method of using a computer processor to generate mesh data". However, no useful, concrete and tangible result is produced because the data is not used to provide a

displayed object or any other indication of resulting generated mesh data. The claimed invention does not posses "real world" value, and instead represents nothing more than an abstract idea of generating mesh data. Therefore claims 1, 3-10, 14 and 15 are rejected under 35 U.S.C. 101.

Claim 11 is rejected under 35 U.S.C. 101 because the claim contains a program, which is non-statutory subject matter because a program must be recited as "a computer-readable medium encoded with a computer program" in order to be considered statutory subject matter. Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory inventions.

Claim 12 is rejected under 35 U.S.C. 101 because claims recite: "A computer-readable recording medium storing a program". In reference to the Specification on page 19 lines 29-31 it is stated that the program is transmitted over a network instead of being stored on a CD-ROM, therefore the storage medium is a signal, which is not statutory. Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a

magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in § 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. The other three § 101 classes of machine, compositions of matter and manufactures "relate to structural entities and can be grouped as 'product' claims in order to contrast them with process claims." 1 D. Chisum, Patents § 1.02 (1994). The three product classes have traditionally required physical structure or material.

Claim 16 is rejected under 35 U.S.C. 101 because claim 16 recites: "A method of using a computer processor to generate…". However, a method implemented by a computer is nothing more than just a program, which is non-statutory. Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized. In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Accordingly, it is important to distinguish claims that define descriptive material per se from claims that define statutory

inventions. The following is an example of statutory subject matter: "A computer readable medium encoded with a computer program".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Marusich (US 2002/0198693).

Regarding claim 1, Marusich describes a method of generating mesh data which represent a characteristic value, such as a material property of the mesh, is associated to combined cube elements and are used in a computer analysis related to a target object in paragraph 0035 lines 4-10 - 0036 lines 1-3 ("*A mesh is generated within the body to subdivide the body into a number of elements. The desired deformation...is entered, typically by a user. A number of element behavior properties are defined for the elements...element behavior properties include material properties...*"). Marusich describes forming grid lines orthogonally crossing each other over a target in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*"), where it is described that the mesh may be divided into cubes, which would provide orthogonally crossed lines over

the surface of the object. Marusich also describes forming cube data from mesh data obtained by dividing the target object by the grid lines, the cube data being formed of cube elements that are mesh elements forming the target object, wherein the cube data is obtained by determining whether each of mesh elements forming the mesh data forms the target object, as described in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*") based on a first condition of the target object in the mesh element, as described in paragraph 0039 lines 8-19 ("*...elements can be refined, or re-meshed with additional, smaller elements to provide more detail, or to provide new elements with a non-deformed aspect ratio.*"), where it is described that the mesh surface is divided based on a first condition, such as ensuring a good aspect is maintained for the mesh, as illustrated in the second step of the second column of the flow chart shown in Figure 4. Marusich also describes generating combined cube elements by combining the cube elements in paragraph 0039 lines 8-19 ("*...elements can be refined, or re-meshed...selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest...Adaptive meshing further includes adding or removing elements in contrast to refining or coarsening the mesh.*"), in accordance with a second condition, such as repeatedly correcting an aspect ratio until the desired ratio is obtained, where a number of the combined cube elements is smaller than a number of cube elements, and wherein the combined cube elements are generated by combining neighboring elements in orthogonal planes in paragraph 0039 lines 4-15 ("*Adaptive meshing is commonly used...when the elements or a selected number of elements are deformed to an undesirable aspect ratio...selected*

elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest."), and a corrective action may be taken if necessary according to the second condition, as shown in the third column of the flowchart shown in Figure 4, where it is shown that the mesh surface is continually corrected until an acceptable aspect ratio is obtained.

Regarding claim 3, Marusich describes the first condition of the target object in the mesh element is a ratio of volume of the target object in the mesh element to volume of the mesh element, as described in paragraph 0039 lines 25-28 ("*...smaller elements to provide more detail, or to provide new elements with a non-deformed aspect ratio. Alternatively, selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest...An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh. It allows a number of adjacent elements to improve their aspect ratio.*").

Regarding claim 4, Marusich describes a second condition of preventing the change of the shape of the target object formed of the cube data in paragraph 0039 lines 25-27 ("*An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh.*"), and as shown in the third column of Figure 4.

Regarding claim 5, Marusich describes a second condition of preserving the substantial shape of the target object formed of the cube data in paragraph 0039 lines 25-27 ("*An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh.*").

Regarding claim 6, Marusich describes a second condition of preventing the substantial volume of the cube elements in paragraph 0039 lines 25-27 ("*An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh.*").

Regarding claim 7, Marusich describes a second condition of combining the cube elements preserves the substantial volume of the cube elements, as described in paragraph 0039 lines 25-28 ("*...selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest...An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh. It allows a number of adjacent elements to improve their aspect ratio.*").

Regarding claim 8, Marusich describes a second condition of maintaining the aspect ratio of each of the surfaces of each of the composite cube elements, as described in paragraph 0039 lines 25-28 ("*...selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest...*"), is within a predetermined range, in which the total volume of the object is preserved, as described in paragraph 0039 lines 25-28 ("*...An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh. It allows a number of adjacent elements to improve their aspect ratio.*").

Regarding claim 9, Marusich describes that each of the composite elements that divide the surface has a rectangular parallelepiped shape in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the*

properties and accuracy of the model…In three dimensions, tetrahedrons or cubes are often used."), where it is described that the mesh surface is divided into cube elements. Marusich also describes that the aspect ratio of each of the surfaces of each of the composite cube elements is a ratio of a length of a first side to a length of a second side of the surfaces, the first and second surface sides being orthogonal to each other, as described in paragraph 0010 lines 6-9 ("*Selected elements or regions of elements can be refined, or re-meshed with additional, smaller elements to provide more detail, or to provide new elements with a non-deformed aspect ratio.*"), where it is described that the aspect ratio, which is known in the art to be the ratio between horizontal and vertical sides, and is therefore determined for the orthogonal sides of the elements of the surface.

Regarding claim 10, Marusich describes that the grid lines portioning the cube elements are reduced in number as the cube elements are combined to be reduced in number in paragraph 0039 lines 25-28 ("*…selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest…*"), where it is described that the mesh elements are formed into fewer, larger elements and the lines formed by rectangular mesh elements are therefore reduced as well.

Regarding claims 11-13, Marusich describes a program embodied on a computer readable medium and an apparatus for executing the program in paragraph 0042 lines 3-6 ("*Embodiments of the invention will hereinafter be described in the general context of computer-executable program modules containing instructions executed by a personal computer (PC).*") and in paragraph 0044 lines 1-5 ("*Program modules may be stored on the hard disk, magnetic disk 29, optical disk 31…*") for causing a computer to execute a method of generating mesh data, in paragraph 0014 line 7 ("*The method includes generating a mesh…*"), which represent a

characteristic value, such as material properties of the mesh are associated to combined cube elements and are used in a computer analysis related to a target object, as described in paragraph 0035 lines 4-10 - 0036 lines 1-3 ("*A mesh is generated within the body to subdivide the body into a number of elements. The desired deformation...is entered, typically by a user. A number of element behavior properties are defined for the elements...element behavior properties include material properties...*"). Marusich describes forming grid lines orthogonally crossing each other over a target in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*"), where it is described that the mesh may be divided into cubes, which would provide orthogonally crossed lines over the surface of the object. Marusich also describes forming cube data from mesh data obtained by dividing the target object by the grid lines, the cube data being formed of cube elements that are mesh elements forming the target object, wherein the cube data is obtained by determining whether each of mesh elements forming the mesh data forms the target object, as described in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*") and in paragraph 0039 lines 8-19 ("*...selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements...Adaptive meshing further includes adding or removing elements in contrast to refining or coarsening the mesh.*"), where it is described that the mesh surface is divided. Marusich describes generating combined cube elements in paragraph 0039 lines 8-19 ("*...selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements...*"), in accordance with a

predetermined condition of preventing a change of a shape of the target object formed of the cube data in paragraph 0039 lines 25-27 ("*An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh.*") and in paragraph 0050 lines 8-11 ("*The modeling element includes a good aspect ratio in the parent element and sub-elements to improve accuracy and computational efficiency.*"). Marusich also describes the remaining conditions as well in the flowchart of Figure 4, where it is described in the third column of the flowchart that the shape and aspect ratio of the object is preserved by adaptively dividing the mesh until a desired aspect ratio is obtained. Marusich describes combined cube elements are generated by combining neighboring elements in orthogonal planes in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*"), where it is described that the divided mesh surfaces comprises cubes, which therefore form orthogonal planes on the surface. Marusich also describes that a corrective action may be taken if necessary according to the second condition, as shown in the second and third column in the flowchart of Figure 4, where it is shown that until an adequate aspect ratio is reached, the mesh surface is repeatedly corrected.

Regarding claim 14, Marusich describes a method of generating mesh data which represent a characteristic value, such as a material property of the mesh, is associated to combined cube elements and are used in a computer analysis related to a target object in paragraph 0035 lines 4-10 - 0036 lines 1-3 ("*A mesh is generated within the body to subdivide the body into a number of elements. The desired deformation...is entered, typically by a user. A number of element behavior properties are defined for the elements...element behavior*

properties include material properties...“). Marusich also describes dividing a target object in to a plurality of first elements using an orthogonal grid, each element corresponding to first data, which is the target object in paragraph 0005 lines 1-7 (“*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*“), where it is described that the mesh surface is divided into cubes and that therefore contains orthogonal lines that form a grid over the surface. Marusich also describes combining the plurality of first elements according to a predetermined condition, in which the shape of the object is preserved as described in paragraph 0039 lines 25-27 (“*An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh.*“), to generate a plurality of second elements, each second element corresponding to second data, wherein a number of second elements is smaller that a number of the first elements, ad described in paragraph 0039 lines 8-19 (“*...elements can be refined, or re-meshed with additional, smaller elements to provide more detail, or to provide new elements with a non-deformed aspect ratio. Alternatively, selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest*”).

Regarding claim 15, Marusich describes a method of analyzing material and pressure properties of a mesh model in paragraph 0036 lines 1-6 (“*...element behavior properties include material properties...element behavior properties include reduced integration techniques. In one embodiment, the parent element is defined to have constant pressure...*“), therefore this mesh data analysis could be applied to any structural or pressure analysis, such as thermal analysis, as

disclosed in the applicant's Specification on page 6 lines 31-36 and page 7 lines 13-15. Marusich describes dividing a target object in to a plurality of first elements using an orthogonal grid, each element corresponding to first data, which is the target object in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model…In three dimensions, tetrahedrons or cubes are often used.*"), where it is described that the mesh surface is divided into cubes and that therefore contains orthogonal lines that form a grid of cube data over the surface. Marusich also describes reducing the cube elements in number by combining the cube elements, in paragraph 0039 lines 8-19 ("*…selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest*"), in accordance with a predetermined condition, in which the shape of the object is preserved, as described in paragraph 0039 lines 25-27 ("*An adaptive meshing change in orientation of a shared surface does not affect overall volume or the number of elements in the mesh.*").

Regarding claim 16, Marusich describes a method of using a computer processor to generate mesh data in paragraph 0014 line 7 ("*The method includes generating a mesh…*"). Marusich describes receiving data representing a target object in paragraph 0035 lines 2-4 ("*A representation of the body to be modeled is created in a simulation environment…*") and is shown as the first step of Figure 4. Marusich also describes dividing the target object into a plurality of mesh elements forming mesh data by forming grid lines orthogonally crossing each other over the target object in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the*

model...In three dimensions, tetrahedrons or cubes are often used."), where it is described that the mesh surface is divided into cubes and that therefore contains orthogonal lines that form a grid over the surface. Marusich describes determining whether each of the mesh elements is a cube element forming the target object based on a ratio of a volume of the target object in the mesh element and a volume of the mesh element in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*") and in paragraph 0050 lines 8-11 ("*The modeling element includes a good aspect ratio in the parent element and sub-elements to improve accuracy and computational efficiency.*"), where it is described that as the mesh surface is divided into cubes containing orthogonal lines, the overall aspect ratio of the object is preserved, therefore the cube elements formed from the division are based on the ratio of the volume, as shown in Figure 4. Marusich describes forming cube data from one or more of the mesh elements determined as the cube elements in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*"). Marusich describes determining a combination of two or more of the cube elements, the two or more of the cube elements being combinable in any of a plurality of orthogonal planes in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*") and in paragraph 0039 lines 8-19 ("*...selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements to provide less detail and to reduce the computations needed in areas of less interest*"),

where it is described that elements are combined into fewer larger elements, therefore at least two cube elements of the mesh are combined. Marusich describes reducing a number of the cube elements by combining the two or more of the cube elements of the determined combination in paragraph 0039 lines 8-19 ("*...selected elements or regions of elements can be re-meshed or coarsened with fewer, larger elements...*").

Response to Arguments

Applicant's arguments with respect to claims 1-4 and 6-9 have been considered but are moot in view of the new ground(s) of rejection.

The applicant argues the 35 U.S.C. 101 rejection of claims 1, 3-10, 14 and 15. The applicant's arguments are not persuasive and the examiner maintains the rejection of claims 1, 3-10, 14 and 15 because claims 1, 14 and 15 recite abstract ideas, which are non-statutory. In regards to the claim objection of claims 4-8, the objection has been withdrawn due to the amendment to claims 4-8.

The applicant argues that the reference Marusich used in the 35 U.S.C. 103(a) rejection of claim 1 does not teach cube data is obtained by determining whether each of the mesh elements forming the mesh data forms the target object. However, Marusich describes forming cube data by dividing the mesh in paragraph 0005 lines 1-7 ("*The configuration of the elements used to divide the component or workpiece determines many of the properties and accuracy of the model...In three dimensions, tetrahedrons or cubes are often used.*"), where the cube data is formed by determining whether the mesh elements forming the mesh data forms the target object based on a first condition, such as preservation of the aspect ratio of the target object, as

described in second and third columns of the flowchart of Figure 4, where it is described that the division of the mesh elements is directly dependent on maintaining the aspect ratio of the target object.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Said Broome whose telephone number is (571)272-2931. The examiner can normally be reached on 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S. Broome
3/28/07 SB

Mark Zimmerman

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